REMARKS/ARGUMENTS

Claims 1-8 were rejected as being unpatentable over Wiget (U.S. Patent 6,640,251) in view of Aditya (U.S. Patent 5,918,021). Claims 1 and 5 are amended. Claims 9 and 10 are new. Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

Wiget discloses a multicast enabled address resolution protocol (ME-ARP). Wiget is particularly concerned with virtual IP networks, specifically virtual private LAN segments (VPLS). In Wiget, ARP requests are multicast to only those segments that form the VPLS (in contrast to conventional IP processing which broadcasts ARP requests to all segments). CPE equipment close to the target node modifies an ARP request before it gets to the end-station/target node. Likewise CPE equipment close to the ARP requester modifies an ARP reply before it gets to the ARP requester. In both cases, the CPE equipment modifies the ARP request/reply to include tunnel address information for the requester/replier node. The end-stations are not involved in the modification of the ARP request or the reply. All of the techniques involve implementing a virtual IP network (i.e., VPLS) over a real IP network. Wiget is silent on any techniques for emulating layer 2 networks (e.g., Ethernet) or for performing any special modifications, processing or exploitations of layer 2 networks.

Aditya discloses a method for dynamic distribution of data packets. It discloses a load balancing mechanism for use in nodes with multiple network adapters, in which multiple physical interfaces are aggregated into one virtual interface to present a host operating system with a single virtual network interface that has the bandwidths of the multiple physical interfaces.

Unlike Wiget or Aditya (alone or in combination), the amended claims are directed to a computing platform on which Ethernet is being emulated using a non-Ethernet physical network. That is, the invention is concerned with layer 2 emulation techniques that exploit certain features of the non-Ethernet physical network. Specifically, unlike conventional (switched) Ethernet semantics in which unicast communications go from node1→Ethernet switch→node2, the invention uses special techniques so that unicast communications are direct: node1→node2. The invention allows such communications to avoid the switch node emulating the Ethernet switch.

Appln. No. 10/038,354
Amdt. dated August 3, 2005
Reply to Office Action of March 25, 2005

Attorney Docket No. 112153.125US1

As recited in the claims, the processor nodes (e.g., first and second processor nodes in claim 1) have their respective ARP tables programmed to associate IP addresses with a corresponding virtual interface for the underlying non-Ethernet physical network for the counterpart node in ARP processing (i.e., the requester or the replier). The virtual interfaces are not to be confused with virtual IP networks; instead, this terminology is the terminology used in the art for the physical network over which Ethernet is being emulated. (Virtual interfaces are akin to port information for the communication fabric.) By so programming the ARP tables with this virtual interface identification information, subsequent unicast IP communication between the nodes uses the ARP tables (and the virtual interfaces associated therewith) "to communicate directly between processor nodes over the non-Ethernet physical network, avoiding the switch node." Thus, unlike the cited art, the claims recite a specific optimization and exploitation of an Ethernet emulation technique in which the entity acting as an Ethernet switch is avoided -- contrary to both switched Ethernet semantics and contrary to the cited art.
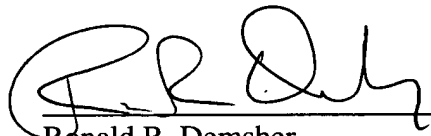
The dependent claims recite even more specific limitations and distinctions concerning the layer 2 emulation techniques employed and are allowable for additional reasons.

For the reasons stated above, we believe that the claims are allowable.

Please apply any charges not covered, or any credits, to Deposit Account No. 08-0219.

Respectfully submitted,

Date: August 3, 2005

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